Abstract:

A micro-electromechanical fluid ejection device includes a substrate that defines a fluid inlet channel and incorporates a wafer and CMOS layers positioned on the wafer. A nozzle chamber structure is positioned on the substrate to define a nozzle chamber in fluid communication with the fluid inlet channel and a fluid ejection port in fluid communication with the nozzle chamber. An actuator is connected to the CMOS layers and is operatively positioned with respect to the nozzle chamber. The actuator is displaceable on receipt of an electrical signal from the CMOS layers to act on fluid in the nozzle chamber to eject fluid from the fluid ejection port. A nozzle guard is mounted on the substrate to be spaced from and cover the nozzle chamber structure. The nozzle guard includes a body member that defines a passage that is aligned with the fluid ejection port so that fluid ejected from the fluid ejection port passes through the passage.

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